AUTHOR INDEX VOLUME 114

A

Aldrich, R.W. *See* Horrigan and Aldrich.
—— *See* Horrigan, Cui, and Aldrich.
—— *See* Kanevsky and Aldrich.
Alonso, A. *See* Magistretti and Alonso.
Alvarez, O. *See* Vergara, Alvarez, and Latorre.
Andersen, O.S. Editorial: Graphic representation of the results of kinetic analyses. 589.
Ando-Akutsuka, Y. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.

B

Barg, S. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Bargiello, T.A. *See* Oh, Rubin, Bennett, Verselis, and Bargiello.
Beam, K.G. *See* Dirksen and Beam.
Becchetti, A., Gamel, K., and Torre, V. Cyclic nucleotide-gated channels: Pore topology studied through the accessibility of reporter cysteines. 377.
Benndorf, K., Koopmann, R., Eismann, E., and Kaupp, U.B. Gating by cyclic GMP and voltage in the α subunit of the cyclic GMP–gated channel from rod photoreceptors. 477.
Bennett, M.V.L. *See* Oh, Rubin, Bennett, Verselis, and Bargiello.
Bergling, S. Which model is best? Let the data decide (Letter to the Editor). 591.
Biber, J. *See* Lambert, Forster, Stange, Biber, and Murer.
Boccaccio, A. *See* Terlau, Boccaccio, Olivera, and Conti.
Byerly, L. *See* Gera and Byerly.

C

Chen, T.-Y. *See* Lin, Lin, and Chen.
Cherny, V.V., and DeCoursey, T.E. pH-dependent inhibition of voltage-gated H^+ currents in rat alveolar epithelial cells by Zn^{2+} and other divalent cations. 819.
Chung, S.-H. *See* Corry, Kuyucak, and Chung.
Conti, F. *See* Terlau, Boccaccio, Olivera, and Conti.
Corry, B., Kuyucak, S., and Chung, S.-H. Test of Poisson-Nernst-Planck theory in ion channels (Letter to the Editor). 597.
Csanády, L., and Gadsby, D.C. *Commentary:* CFTR channel gating: Incremental progress in irreversible steps. 49.
Cui, J. *See* Horrigan, Cui, and Aldrich.

D

Dawson, D.C. *See* Smith, Steinle, Meyerhoff, and Dawson.
Deachapunya, C., Palmer-Densmore, M., and O'Grady, S.M. Insulin stimulates transepithelial sodium transport by activation of a protein phosphatase that increases Na-K ATPase activity in endometrial epithelial cells. 561.
DeCoursey, T.E. *See* Cherny and DeCoursey.
del Pilar Gomez, M. *See* Nasi and del Pilar Gomez.
De Weer, P. *Commentary:* No easy way out (or in). 427.
Dirksen, R.T., and Beam, K.G. Role of calcium permeation in dihydropyridine receptor function: Insights into channel gating and excitation–contraction coupling. 393.
Dyck, C., Omelchenko, A., Elias, C.L., Quednau, B.D., Philipson, K.D., Hnatowich, M., and Hyrshko, L.V. Ionic regulatory properties of brain and kidney splice variants of the NCX1 Na^+-Ca^{2+} exchanger. 701.

E

Eismann, E. *See* Benndorf, Koopmann, Eismann, and Kaupp.
Elias, C.L. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.
Eliasson, L. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Escobar, A. *See* Fill, Mejía-Alvarez, Kettlun, and Escobar.

F

Fahrenfort, I., Habets, R.L., Spekreijse, H., and Kamermans, M. Intrinsic cone adaptation modulates feedback efficiency from horizontal cells to cones. 511.
Fan, Z., and Makielski, J.C. Phosphoinositides decrease ATP sensitivity of the cardiac ATP-sensitive K^+ channel: A molecular probe for the mechanism of ATP-sensitive inhibition. 251.
Fill, M., Mejia-Alvarez, R., Kettlun, C., and Escobar, A. Ryanodine receptor permeation and gating: Glowing cinders that underlie the Ca^{2+} spark (Letter to the Editor). 159.
—— *See* Ramos-Franco, Galvan, Mignery, and Fill.
Flagg, T.P., Tate, M., Merot, J., and Welling, P.A. A mutation linked with Bartter's syndrome locks Kir 1.1a (ROMK1) channels in a closed state. 685.
Fogarty, K.E. *See* Zou, Lifshitz, Tuft, Fogarty, and Singer.
Forster, I.C. *See* Lambert, Forster, Stange, Biber, and Murer.

G

Gadsby, D.C. *See* Csanády and Gadsby.
Galvan, D. *See* Ramos-Franco, Galvan, Mignery, and Fill.
Galvanovskis, J. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Gamel, K. *See* Becchetti, Gamel, and Torre.
García, E., Scanlon, M., and Naranjo, D. A marine snail neurotoxin shares with scorpion toxins a convergent mechanism of blockade on the pore of voltage-gated K channels. 141.
Gautschi, I. *See* Kellenberger, Hoffmann-Pochon, Gautschi, Schneeberger, and Schild.
Gera, S., and Byerly, L. Voltage- and calcium-dependent inactivation of calcium channels in *Lymnaea* neurons. 535.
González, A. *See* Ríos, Stern, González, Pizarro, and Shirokova.
Göpel, S.O., Kanno, T., Barg, S., Eliasson, L., Galvanovskis, J., Renström, E., and Rorsman, P. Activation of Ca^{2+}-dependent K^+ channels contributes to rhythmic firing of action potentials in mouse pancreatic β cells. 759.
Greeff, N.G. *See* Kühn and Greeff.
Györke, I. *See* Zahradníková, Zahradník, Györke, and Györke.

Györke, S. Ca^{2+} spark termination: Inactivation and adaptation may be manifestations of the same mechanism (Letter to Editor). 163.
—— *See* Zahradníková, Zahradník, Györke, and Györke.

H

Habets, R.L. *See* Fahrenfort, Habets, Spekreijse, and Kamermans.
Hayashi, S. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.
Hazama, A., Shimizu, T., Ando-Akutsuka, Y., Hayashi, S., Tanaka, S., Maeno, E., and Okada, Y. Swelling-induced, CFTR-independent ATP release from a human epithelial cell line: Lack of correlation with volume-sensitive Cl^- channels. 525.
Heginbotham, L., LeMasurier, M., Kolmakova-Partensky, L., and Miller, C. Single *Streptomyces lividans* K^+ channels: Functional asymmetries and sidedness of proton activation. 551.
Henderson, L.M., and Meech, R.W. Evidence that the product of the human X-linked CGD gene, gp91-*phox*, is a voltage-gated H^+ pathway. 771.
Hilgemann, D.W., and Lu, C.-C. GAT1 (GABA:Na^+:Cl^-) cotransport function: Database reconstruction with an alternating access model. 459.
—— *See* Lu and Hilgemann.
Hill, W.G., Rivers, R.L., and Zeidel, M.L. Role of leaflet asymmetry in the permeability of model biological membranes to protons, solutes, and gases. 405.
Hnatowich, M. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.
Hoffmann-Pochon, N. *See* Kellenberger, Hoffmann-Pochon, Gautschi, Schneeberger, and Schild.
Horrigan, F.T., and Aldrich, R.W. Allosteric voltage gating of potassium channels II: mSlo channel gating charge movement in the absence of Ca^{2+}. 305.
——, **Cui, J., and Aldrich, R.W.** Allosteric voltage gating of potassium channels I: mSlo ionic currents in the absence of Ca^{2+}. 277.
Hryshko, L.V. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.

I

Iida, A., and Kashiwayanagi, M. Responses of *Xenopus laevis* water nose to water-soluble and volatile odorants. 85.
Islas, L.D., and Sigworth, F.J. Voltage sensitivity and gating change in *Shaker* and *Shab* family potassium channels. 723.

J

Jennings, M.L. Volume-sensitive K^+/Cl^- cotransport in rabbit erythrocytes *analysis of the rate-limiting activation and inactivation events.* 743.
Jones, S.W. *Commentary:* A plausible model. 271.
—— *See* Serrano, Perez-Reyes, and Jones.
Jordan, P.C. Ion permeation and chemical kinetics (Letter to the Editor). 601.

K

Kamermans, M. *See* Fahrenfort, Habets, Spekreijse, and Kamermans.
Kanevsky, M., and Aldrich, R.W. Determinants of voltage-dependent gating and open-state stability in the S5 segment of *Shaker* potassium channels. 215.
Kanno, T. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Kashiwayanagi, M. *See* Iida and Kashiwayanagi.
Kaupp, U.B. *See* Benndorf, Koopmann, Eismann, and Kaupp.
Kellenberger, S., Hoffmann-Pochon, N., Gautschi, I., Schneeberger, E., and Schild, L. On the molecular basis of ion permeation in the epithelial Na^+ channel. 13.
Kettlun, C. *See* Fill, Mejía-Alvarez, Kettlun, and Escobar.
Kolmakova-Partensky, L. *See* Heginbotham, LeMasurier, Kolmakova-Partensky, and Miller.
Koopmann, R. *See* Benndorf, Koopmann, Eismann, and Kaupp.
Koster, J.C., Sha, Q., and Nichols, C.G. Sulfonylurea and K^+-channel opener sensitivity of K_{ATP} channels: Functional coupling of Kir6.2 and SUR1 subunits. 203.
Kühn, F.J.P., and Greeff, N.G. Movement of voltage sensor S4 in domain 4 is tightly coupled to sodium channel fast inactivation and gating charge immobilization. 167.
Kuyucak, S. *See* Corry, Kuyucak, and Chung.

L

Lambert, G., Forster, I.C., Stange, G., Biber, J., and Murer, H. Properties of the mutant Ser-460-Cys implicate this site in a functionally important region of the type IIa Na^+/P_i cotransporter protein. 637.
Latorre, R. *See* Vergara, Alvarez, and Latorre.
LeMasurier, M. *See* Heginbotham, LeMasurier, Kolmakova-Partensky, and Miller.
Lifshitz, L.M. *See* Zou, Lifshitz, Tuft, Fogarty, and Singer.
Lin, C.-W. *See* Lin, Lin, and Chen.
Lin, Y.-W., Lin, C.-W., and Chen, T.-Y. Elimination of the slow gating of ClC-0 chloride channel by a point mutation. 1.
Logothetis, D.E. *See* Petit-Jacques, Sui, and Logothetis.
Lu, C.-C., and Hilgemann, D.W. GAT1 (GABA:Na^+:Cl^-) cotransport function: Kinetic studies in giant *Xenopus* oocyte membrane patches. 445.
——, **and Hilgemann, D.W.** GAT1 (GABA:Na^+:Cl^-) cotransport function: Steady state studies in giant *Xenopus* oocyte membrane patches. 429.
—— *See* Hilgemann and Lu.
Lu, Z. *See* Spassova and Lu.

M

MacKinnon, R. *See* Morrill and MacKinnon.
Maduke, M., Pheasant, D.J., and Miller, C. High-level expression, functional reconstitution, and quaternary structure of a prokaryotic ClC-type chloride channel. 713.
Maeno, E. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.
Magistretti, J., and Alonso, A. Biophysical properties and slow voltage-dependent inactivation of a sustained sodium current in entorhinal cortex layer-II principal neurons: A whole-cell and single-channel study. 491.
Magleby, K.L. *See* Rothberg and Magleby.
Makielski, J.C. *See* Fan and Makielski.
Meech, R.W. *See* Henderson and Meech.
Mejía-Alvarez, R. *See* Fill, Mejía-Alvarez, Kettlun, and Escobar.

Merot, J. *See* Flagg, Tate, Merot, and Welling.
Meyerhoff, M.E. *See* Smith, Steinle, Meyerhoff, and Dawson.
Mignery, G.A. *See* Ramos-Franco, Galvan, Mignery, and Fill.
Miller, C. *See* Heginbotham, LeMasurier, Kolmakova-Partensky, and Miller.
—— *See* Maduke, Pheasant, and Miller.
Morrill, J.A., and MacKinnon, R. Isolation of a single carboxyl-carboxylate proton binding site in the pore of a cyclic nucleotide–gated channel. 71.
Murer, H. *See* Lambert, Forster, Stange, Biber, and Murer.

N

Nagel, G. *See* Weinreich, Riordan, and Nagel.
Naranjo, D. *See* García, Scanlon, and Naranjo.
Nasi, E., and del Pilar Gomez, M. Divalent cation interactions with light-dependent K channels: Kinetics of voltage-dependent block and requirement for an open pore. 653.
Nichols, C.G. *See* Koster, Sha, and Nichols.

O

O'Grady, S.M. *See* Deachapunya, Palmer-Densmore, and O'Grady.
Oh, S., Rubin, J.B., Bennett, M.V.L., Verselis, V.K., and Bargiello, T.A. Molecular determinants of electrical rectification of single channel conductance in gap junctions formed by connexins 26 and 32. 339.
Okada, Y. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.
Olivera, B.M. *See* Terlau, Boccaccio, Olivera, and Conti.
Omelchenko, A. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.

P

Palmer-Densmore, M. *See* Deachapunya, Palmer-Densmore, and O'Grady.
Perez-Reyes, E. *See* Serrano, Perez-Reyes, and Jones.
Petit-Jacques, J., Sui, J.L., and Logothetis, D.E. Synergistic activation of G protein–gated inwardly rectifying potassium channels by the βγ subunits of G proteins and Na^+ and Mg^{2+} ions. 673.
Pheasant, D.J. *See* Maduke, Pheasant, and Miller.
Philipson, K.D. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.
Pizarro, G. *See* Ríos, Stern, González, Pizarro, and Shirokova.

Q

Quednau, B.D. *See* Dyck, Omelchenko, Elias, Quednau, Philipson, Hnatowich, and Hryshko.

R

Ramos-Franco, J., Galvan, D., Mignery, G.A., and Fill, M. Location of the permeation pathway in the recombinant type 1 inositol 1,4,5-trisphosphate receptor. 243.
Renström, E. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Riordan, J.R. *See* Weinreich, Riordan, and Nagel.
Rios, E., Stern, M.D., González, A., Pizarro, G., and Shirokova, N. Calcium release flux underlying Ca^{2+} sparks of frog skeletal muscle. 31.
Rivers, R.L. *See* Hill, Rivers, and Zeidel.
Rorsman, P. *See* Göpel, Kanno, Barg, Eliasson, Galvanovskis, Renström, and Rorsman.
Rothberg, B.S., and Magleby, K.L. Gating kinetics of single large-conductance Ca^{2+}-activated K^+ channels in high Ca^{2+} suggest a two-tiered allosteric gating mechanism.° 93. Correction. 337.
Roux, B. Theories of ion permeation: A chaser (Letter to the Editor). 605.
Rubin, J.B. *See* Oh, Rubin, Bennett, Verselis, and Bargiello.

S

Scanlon, M. *See* García, Scanlon, and Naranjo.
Schild, L. *See* Kellenberger, Hoffmann-Pochon, Gautschi, Schneeberger, and Schild.
Schneeberger, E. *See* Kellenberger, Hoffmann-Pochon, Gautschi, Schneeberger, and Schild.
Serrano, J.R., Perez-Reyes, E., and Jones, S.W. State-dependent inactivation of the α1G T-type calcium channel. 185.
Sha, Q. *See* Koster, Sha, and Nichols.
Shimizu, T. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.
Shirokova, N. *See* Ríos, Stern, González, Pizarro, and Shirokova.
Shukla, P., and Sullivan, J.M. Normal and mutant rhodopsin activation measured with the early receptor current in a unicellular expression system. 609.
Sigworth, F.J. *See* Islas and Sigworth.
Singer, J.J. *See* Zou, Lifshitz, Tuft, Fogarty, and Singer.
Smith, S.S., Steinle, E.D., Meyerhoff, M.E., and Dawson, D.C. Cystic fibrosis transmembrane conductance regulator: physical basis for lyotropic anion selectivity patterns. 799.
Spassova, M., and Lu, Z. Tuning the voltage dependence of tetraethylammonium block with permeant ions in an inward-rectifier K^+ channel. 415.
Spekreijse, H. *See* Fahrenfort, Habets, Spekreijse, and Kamermans.
Stange, G. *See* Lambert, Forster, Stange, Biber, and Murer.
Steinle, E.D. *See* Smith, Steinle, Meyerhoff, and Dawson.
Stern, M.D. *See* Ríos, Stern, González, Pizarro, and Shirokova.
Sui, J.L. *See* Petit-Jacques, Sui, and Logothetis.
Sullivan, J.M. *See* Shukla and Sullivan.

T

Tanaka, S. *See* Hazama, Shimizu, Ando-Akutsuka, Hayashi, Tanaka, Maeno, and Okada.
Tate, M. *See* Flagg, Tate, Merot, and Welling.
Terlau, H., Boccaccio, A., Olivera, B.M., and Conti, F. The block of *Shaker* K^+ channels by κ-conotoxin PVIIA is state dependent. 125.
Torre, V. *See* Becchetti, Gamel, and Torre.
Tuft, R.A. *See* Zou, Lifshitz, Tuft, Fogarty, and Singer.

°The online version of this article contains supplemental material.

V

Vergara, C., Alvarez, O., and Latorre, R. Localization of the K^+ lock-in and the Ba^{2+} binding sites in a voltage-gated calcium-modulated channel: Implications for survival of K^+ permeability. 365.

Verselis, V.K. *See* Oh, Rubin, Bennett, Verselis, and Bargiello.

von Kitzing, E. Forces determining ion permeation (Letter to the Editor). 593.

W

Weinreich, F., Riordan, J.R., and Nagel, G. Dual effects of ADP and adenylylimidodiphosphate on CFTR channel kinetics show binding to two different nucleotide binding sites. 55

Welling, P.A. *See* Flagg, Tate, Merot, and Welling.

Z

Zahradník, I. *See* Zahradníková, Zahradník, Györke, and Györke.

Zahradníková, A., Zahradník, I., Györke, I., and Györke, S. Rapid activation of the cardiac ryanodine receptor by submillisecond calcium stimuli. 787.

Zeidel, M.L. *See* Hill, Rivers, and Zeidel.

Zou, H., Lifshitz, L.M., Tuft, R.A., Fogarty, K.E., and Singer, J.J. Imaging Ca^{2+} entering the cytoplasm through a single opening of a plasma membrane cation channel. 575. Correction. 839.